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**OPINIONS AND DECLARATIONS
RENDERED BY THE INTER-
NATIONAL COMMISSION ON
ZOOLOGICAL NOMENCLATURE**

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.
Secretary to the Commission

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OPINION 186

Suspension of the rules for *Squilla* Fabricius
(J. C.), 1787 (Class Crustacea, Order Stomato-
poda)

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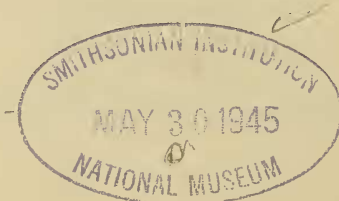
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OPINION 186.

SUSPENSION OF THE RULES FOR *SQUILLA* FABRICIUS (J. C.), 1787 (CLASS CRUSTACEA, ORDER STOMATOPODA).

SUMMARY.—The following action is hereby taken under suspension of the rules : (i) the name *Squilla* Gronovius, 1760, and the name *Squilla* as used by O. F. Müller, 1776, by Scopoli, 1777, by Otto Fabricius 1780, and by any other author prior to J. C. Fabricius, 1787, are suppressed ; (ii) the name *Squilla* Fabricius (J. C.), 1787, is validated ; (iii) all type designations for *Squilla* Fabricius, 1787, made prior to the date of this *Opinion*, are set aside ; and (iv) *Cancer mantis* Linnaeus, 1758, is designated as the type of *Squilla* Fabricius, 1787 (Class Crustacea, Order Stomatopoda). The name *Squilla* Fabricius, 1787, with the type indicated above, is hereby added to the *Official List of Generic Names in Zoology* as Name No. 619.

I.—THE STATEMENT OF THE CASE.

This case was submitted to the International Commission by Dr. Robert P. Bigelow, Professor of Zoology and Parasitology, Massachusetts Institute of Technology, Cambridge, Mass., in the following statement dated 13th August 1931:—

A PETITION FOR THE SUSPENSION OF THE RULES IN FAVOR OF THE GENUS *SQUILLA* J. C. FABRICIUS, 1781 OR 1787

The genus *Squilla* J. C. Fabricius or *Chloridella* Miers is not only, as stated by Kemp, 1913, the oldest established, but also the most numerous in species and the most typical genus of the Crustacean order Stomatopoda. As established by J. C. Fabricius in 1787, it contained exclusively all the Stomatopoda then known, including as the first species the common European form that had been described in 1778 by de Geer under the name *Squilla mantis*.

The genus *Squilla* of Fabricius was accepted by Lamarck in 1801 and by Latreille in 1802, and this name for the typical genus of Stomatopoda had remained unquestioned for more than a century when in 1899, Miss M. J. Rathbun (*J. Inst. Jamaica* 2 : 628 footnote) called attention to the use of this name by O. F. Müller (1776) for an amphipod. Later, Sherborn (1902 : 926) cited L. T. Gronov (1760) as the first to apply the name to a genus of animals after 1st January 1758. Gronov described a genus that he called *Squilla* and one species with a figure, which is identified by Stebbing (1888 : 19 and 1910 : 405) as an amphipod, *Proto ventricosa* (O. F. Müller).

Early Use of the Name

The use of the name *Squilla* may be traced back to the Greek of Aristotle and to the Latin of Pliny (A.D. 79). From early times the name *Squilla*

or its equivalent, *la squille*, etc., seems to have been applied by fishermen to various shrimp-like animals.

The first modern use of the name is by Bellon, 1553, "*Squilla fluviatilis parva*," the gamarella of the Romans, not an amphipod (Stebbing 1888 : 2). The general usage of the time is reflected by Rondelet (1558) who describes and figures under the generic name *Squilla* several species of decapod shrimps and prawns, and also (: 396-398) the mantis-shrimp, "*la quille nomené μαντις*, with a good figure of the form now known as *S. mantis* de Geer.

In his use of the name for decapod shrimps and prawns, Rondelet was followed by Mattioli (1565), Sachs (1665), Rösel van Rosenhof (1746 : 310-313 pl. 63), Baster (1762), and others. Linnaeus recognized this usage by the application of *squilla* as a trivial name for the edible prawn, *Cancer squilla* (Linn., 1735, and 1758), later called *Palaemon squilla* Fabr. The mantis shrimp he named (1758) *Cancer mantis*.

Squilla, a genus of Amphipoda

Of the two species included in Rösel van Rosenhof's genus *Squilla*, one, his *S. fluviatilis*, is an amphipod, probably the first use of the name for a member of this group. Seba (1761) not binomial (Sherborn, 1902 : xlix) made of *Squilla* a comprehensive group including two amphipods.

In 1760 Gronov (: 38) gave a definition of the genus *Squilla*, the first application after 1757 (Sherborn, 1902 : 926), and he cited one species (: 39) "*Squilla acaudata pedibus quatuordecim*," evidently non-binomial. According to Stebbing (1888 : 19) the accompanying figures (figs. 8, 9, 10) represent very well the small caprellid amphipod later known as *Proto ventricosa* (O. F. Müller). In 1764 Gronov again described the genus, and mentioned two species, different from the first, apparently amphipods. But according to Stebbing (*loc. cit* : 27) his descriptions are so indefinite and his references so inconsistent that it is impossible to identify them.

The genus of Gronov was adopted by O. F. Müller (1776 and 1788), Scopoli (1777), and Otto Fabricius (1780). Müller (1776) gives two species (accepted by Sherborn, 1902 : 548, 1035)—No. "2359 *Squilla lobata pallida pellucida*," . . . (syn.) "*Canc. linearis* . . . Linné," and No. "2360 *Squilla ventricosa rubra depressa*," with reference to Gronov's first paper. Later Müller (1788 : 20, 21; "unquestionably binomial," M. J. R.) gives the same two species with figures, but in reversed order, and renames No. 2350 *Squilla quadrilobata*. Scopoli (1777) gives a list of the genera of Gronov with definitions, but without species. O. Fabricius (1780) merely mentions *S. lobata* Müller.

Squilla, a genus of Stomatopoda

Following Rondelet (1558) the name *Squilla* was applied by several authors to collective groups that included stomatopods. Among the first of these was Rumphius (1705), who applied the name to four species of Crustacea, which he described and figured—two under *Squilla arenaria* are stomatopods, and two under *Squilla lata* are decapods of the family SCYLLARIDAE.

Seba, whose great atlas furnished a wealth of illustrations for his contemporaries, is utterly confused in his nomenclature. Under *Squilla* he includes in vol. 3 (1761) three stomatopods, five decapods, and two amphipods.

De Geer (1778), probably under the influence of Gronov, gives a definition of *Squilla* that includes three isopods, two amphipods, and *Squilla mantis* (name accepted by Sherborn (: 583); = *Cancer mantis* Linn.).

The name *Squilla* was restricted for the first time to stomatopods when J. C. Fabricius (1781) used the generic name *Squilla* exclusively for four species, three of which he had previously (1775) classed under *Astacus*.

The first on the list is *Squilla mantis* de Geer. Each species is defined with references, but there is no definition of the genus. The definition of the genus is supplied by Fabricius in 1787 and is followed by the same list of species with the addition of a fifth. For his first (type) species Fabricius has adopted the name used by de Geer (1778), who in turn cites Aldrovandi (ca. 1602) and Rondelet (1558) as his authority. So, perhaps, it may be assumed that Fabricius was following the law of priority as understood in his time.

The acceptance of the genus Squilla of J. C. Fabricius

The genus *Squilla* of J. C. Fabricius was accepted by Lamarck (1801 : 160), and he gave a new generic name, *Caprella* (Sherborn, 1922 : 1068), instead of *Squilla*, to the two species of amphipods placed under the latter name by O. F. Müller (1788). The second of these was afterwards separated from *Caprella* by Leach (1814) to become the type of his genus *Proto*.

Latreille's (1802-1803) acceptance of the revision of Fabricius was enthusiastic. After discussing the previous usage, he says (1803 : 271, freely translated)—“ De Geer includes in the squilles not only the Crustacea to which we restrict the name, but also the crevettes and our family of asellotes. Fabricius has finally removed this confusion, and the genus of the squilles is now circumscribed in convenient limits, being perfectly natural.” He then goes on to quote with approval de Geer's unusually exact description of the most common species, *Squilla mantis*. Then follows a list with short descriptions of all the species mentioned in the latest work of Fabricius (1798), changing the order to place *S. mantis* first, as Fabricius had it originally (1781 and 1787).

Of the nine species included in the genus by Fabricius in 1798, the first, *S. maculata*, has been placed in the genus *Lysiosquilla* Dana, 1852; the second and third remain in the genus *Squilla*, viz.: *S. mantis* (type: Latreille, 1810) and *S. raphidea*; the sixth *S. scyllarus*, and the eighth, *S. chiragra*, were placed by Latreille (1825) in his new genus *Gonodactylus*; the seventh, *S. ciliata*, was added under another name by Dana (1852) to his genus *Pseudosquilla*; while the remaining species, *S. phalangium*, *S. ichneumon*, and *S. vitrea* (a larval form?) are now indeterminate (Kemp, 1913 : 205).

In the meantime, other species have been added to the genus *Squilla*, of which *S. mantis* remains the type. In 1841 Eydoux and Souleyet proposed the generic name *Chlorida* for several species with very small eyes. Finding this name preoccupied, Miers (1880) changed it to *Chloridella*. But Brooks found (1888) that these forms are linked to the typical species of *Squilla* by intermediate types.

In his monograph of the Stomatopoda, Kemp (1913 : 3) gives a list of fifty-four known species and varieties of *Squilla*. In spite of the addition of many new species, the limiting characteristics of this genus have remained practically unchanged since the publication of the Challenger Report (Brooks, 1888); and in nearly all important monographs and other papers from Fabricius, 1793, to the present time, the name *Squilla* has represented a genus of Stomatopods that contains the common European mantis shrimp, the type species; while the various unrelated eighteenth century species associated with this name had been discarded into the synonymy or placed in other genera before the second year of the nineteenth century.

Since that date, so far as your petitioner is aware, the name *Squilla* had represented a genus of Stomatopoda with absolute uniformity, until Miss Rathbun in 1899¹ and again in 1902 published the statement that the name is preoccupied and should be replaced by the next available name,

¹ For Dr. Rathbun's attitude towards the present application, see paragraph 2 below.

Chloridella Miers, 1880. This was disputed by Stebbing (1910), and the older name has continued to be used by the great majority of zoologists, notably Stanley Kemp in the two most important monographs (1913 and 1915) published since Brooks. Among fifteen papers that have dealt with this genus after 1902, there are four only in which the name *Chloridella* has been substituted for *Squilla* Fabr., viz.: J. G. de Man (1907), M. J. Rathbun (1910), H. Lüderwaldt (1919) and W. L. Schmitt (1924).

If the judgment of Miss Rathbun be accepted, *Squilla* Gronov takes the place of *Caprella* Lamarck, or perhaps of *Proto* Leach, while *Squilla* Fabricius is suppressed in favor of *Chloridella* Miers. In other words, two genera of century-long standing change names, and any student reading in the literature of the nineteenth century must remember that *Squilla* then is not the same as *Squilla* now, but must be looked for under another name. What could be more confusing?

Moreover, it is still open to question whether *Squilla* Gronov will hold under a strict application of the Rules. Gronov (1760) and O. F. Müller (1776) are not strictly binomial. O. F. Müller does not become unquestionably binomial until 1788, and the use of *Squilla* for Stomatopoda was begun by J. C. Fabricius in 1781 and 1787. That leaves, as a basis for the acceptance of the genus *Squilla* of Gronov, only the work of Scopoli (1777), who gives merely a list of the genera of Gronov, with definitions but no mention of species.

In this case a strict application of the *Règles* serves no useful purpose whatever, and in fact only introduces confusion where for a hundred years perfect uniformity has prevailed. It involves the names of at least two genera that are typical of certain well-defined groups of Crustacea and that under these names have been well-known to zoologists for a century. Familiar names are now to be substituted one for the other, and one of them perhaps suppressed as a *nomen nudum* in favor of an unfamiliar name resurrected from the synonymy.

From the facts set forth above, many of which have been supplied very kindly by Miss Rathbun in personal communications, it seems evident that the substitution of the generic name *Chloridella* Miers, 1880, for *Squilla* Fabricius, 1787, is a case "where the strict application of the *Règles* will clearly result in greater confusion than uniformity."

Therefore the undersigned respectfully prays that the Commission will suspend the *Règles* and place *Squilla* Fabricius, 1781 or 1787, in the *Official List of Generic Names in Zoology*.

R. P. Bigelow.

Woods Hole, Mass.
August 13, 1931.

II.—THE SUBSEQUENT HISTORY OF THE CASE.

2. Immediately upon receipt of the foregoing communication, Dr. C. W. Stiles, Secretary to the Commission, invited the opinion of Dr. Mary Rathbun as the author who had first pointed out that *Squilla* Fabricius was preoccupied. Dr. Rathbun replied (25th August 1931): "In view of the fact that exceptions to the rules are permitted, I believe that *Squilla* should be restored."

3. In December 1931, the case submitted by Professor Bigelow, together with the text of the supporting letter received from Dr. Rathbun, was communicated to each member of the Commission

for observations. In February 1935 Dr. Stiles suggested that this case, on which only a small number of votes had by that time been received, should be settled by the Commission at their Session due to be held at Lisbon in September of that year. At the same time Dr. Stiles reported that the late Commissioner F. A. Bather had at his request made a special study of the points involved in this case and shortly before his death had submitted the following report: "This is pre-eminently a case in which adherence to the rules leads to confusion. I support Professor Bigelow and Miss Rathbun." At the same time Dr. Stiles recommended that the Commission should grant the relief sought in the present petition and drew attention as follows to the similarity between this case and that dealt with by the Commission in *Opinion* 89: "On an earlier occasion (*Opinion* 89) the Commission suspended the rules in the case of Gronow, 1763, because the application of the rules to the case involved would produce greater confusion than uniformity. The present case involves a suspension of Gronow, 1760, on similar grounds."

4. Owing to the exceptionally heavy agenda and the short time available for meetings at Lisbon, the Commission were unable to deal with this case during their Lisbon Session and it was accordingly arranged that a decision thereon should be taken by a postal vote.

5. In May 1936 this case was duly advertised in the manner prescribed in proviso (a) to Article 1 of the Plenary Powers Resolution adopted by the Ninth International Congress of Zoology at its meeting held at Monaco in March 1913.² No communication of any kind objecting to the suspension of the rules in favour of *Squilla* Fabricius was received by the Commission within the period of one year prescribed by the said Resolution.

6. Owing to an insufficiency in the number of votes received, this case was still open when on 10th June 1938 Commissioner Stiles, who had by that time vacated the Office of Secretary to the Commission, notified his successor that he had received a letter (dated 15th February 1938) from Dr. Waldo L. Schmitt, U.S. National Museum, Washington, expressing apprehension at the prospect of the suspension of the rules in favour of *Squilla* Fabricius and at the consequential displacement of the name *Chloridella*

² For the text of the Plenary Powers Resolution, see *Declaration* 5 (1943, *Opinions and Declarations rendered by the International Commission on Zoological Nomenclature* 1: 31-40).

Miers, the use of this latter name being, in his (Dr. Schmitt's) judgment, "fully justified under the rules." Dr. Stiles added that he had recently had a conference with Dr. Schmitt on this subject and had asked him "to reduce his views to paper and to send the letter to the Secretary to the Commission."

7. In order to afford Dr. Schmitt ample opportunity to place his views before the Commission, notwithstanding the fact that the prescribed period within which, under the Plenary Powers Resolution, objection might be lodged had already expired, the Secretary to the Commission decided that the case should remain open for a further period of six months, *i.e.* until 10th December 1938. No communication was, however, received on this subject during the additional period so made available.

8. In recording his vote in favour of the proposal submitted by Professor Bigelow, Commissioner Francis Hemming, as Secretary to the Commission, entered the following note in the record relating to this case:—

In dealing with XVIIIth century names, it is extremely difficult to make sure that, as regards any given name, every relevant reference in the literature has been detected. As regards the procedure to be adopted in recording the decision of the Commission in this case, it would be well therefore to follow the precedent set by the Commission at Lisbon in 1935 when dealing with certain similar cases in the Order Hymenoptera (Class Insecta) submitted by Professor James Chester Bradley (Lisbon Session, 3rd Meeting, Conclusion 2),³ that is to say, to use their plenary powers first (a) to suppress all uses of the word *Squilla* as a generic name prior to its publication by J. C. Fabricius for a genus of the Order Stomatopoda (Class Crustacea) and (b) to set aside all type designations for *Squilla* Fabricius made prior to the date of the present *Opinion*. Having done this, the Commission can use their plenary powers (i) to validate *Squilla* Fabricius and (ii) to designate *Cancer mantis* Linnaeus, 1758, as the type of that genus. The name *Squilla* Fabricius, so validated and with the above species as its type, can then be added to the *Official List of Generic Names in Zoology* as proposed.

As regards the question of the date as from which *Squilla* Fabricius should rank, there is no doubt that this should be 1787, *Mantissa Ins.* 1: 333, when Fabricius first published this name in conditions which satisfy proviso (a) to Article 25 of the International Code. His publication of the name *Squilla* in 1781, *Spec. Ins.* 1: 514 is invalid, since on that occasion he neither gave a description or a definition of this genus nor did he give an "indication" for it within the meaning of that expression as defined in *Opinion* 1 (see 1944, *Opinions and Declarations rendered by the International Commission on Zoological Nomenclature* 1: 73-86). All that he did was to place in this genus four species, none of which he specified as the type.

Fortunately in the present case, the Commission are asked to suppress certain early uses of the name *Squilla* and not to express an opinion whether those early uses are valid under the Code. If the reverse had been the case, it would not have been possible to give more than a provisional decision, since the status of some of the works concerned depends on the

³ For the text of the Conclusion here referred to, see 1943, *Bull. zool. Nomencl.* 1: 27-30.

interpretation to be given to the expression "binary nomenclature" in proviso (b) to Article 25 of the International Code. That question is at present *sub judice*, the Twelfth International Congress of Zoology having requested the International Commission on Zoological Nomenclature to furnish a report thereon at the next meeting of the Congress.⁴

9. The position as regards the present case was reviewed on 10th December 1938, the date to which (as explained in paragraph 7 above) had been extended the period within which grounds of objection against the proposed action could be lodged with the Commission. By that date no grounds of objection had been lodged by any author; further, the number of votes cast by Commissioners in favour of that action already exceeded the minimum prescribed by paragraph (1) of Article 6 of the By-Laws of the Commission as the number required to secure the adoption of an *Opinion* by the Commission. Accordingly on 11th December 1938, the Secretary to the Commission, acting in virtue of the power conferred upon him in that behalf by Article 7 of the By-Laws, closed the ballot in this case.

III.—THE CONCLUSION REACHED BY THE INTERNATIONAL COMMISSION.

10. The decision taken by the Commission in the present case is :—

(a) under suspension of the rules :—

- (i) to suppress the name *Squilla* Gronovius, 1760, and the name *Squilla* as used by O. F. Müller, 1776, by Scopoli, 1777, by Otto Fabricius, 1780 and by any other author prior to J. C. Fabricius, 1787;
- (ii) to validate *Squilla* Fabricius (J. C.), 1787, *Mantissa Ins.* 1 : 333;
- (iii) to set aside all type designations for *Squilla* Fabricius, 1787 made prior to the date of the present *Opinion*;
- (iv) to designate *Cancer mantis* Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1 : 633 as the type of *Squilla* Fabricius, 1787;

(b) to add the name *Squilla* Fabricius, 1787 (validated as in (a) (ii) above), and with the type specified in (a) (iv) above, to the *Official List of Generic Names in Zoology*.

11. The following twelve (12) Commissioners voted in favour of the present *Opinion* :—

⁴ This invitation was accepted by the International Commission at their meeting held on Wednesday, 18th September 1935 (Lisbon Session, 5th Meeting, Conclusion 3, for the text of which see 1943, *Bull. zool. Nomencl.* 1 : 45) and this acceptance was recorded by the Commission in paragraph 14 of the report which they submitted to the Twelfth International Congress of Zoology at the final Concilium Plenum held at Lisbon on 21st September 1935 (see 1943, *Bull. zool. Nomencl.* 1 : 55). A further discussion of this subject will be found in paragraph 16 (d) and (e) of *Opinion* 160, where it arises in connection with Scopoli, 1777, *Introd. Hist. nat.* (see 1945, *Opinions and Declarations rendered by the International Commission on Zoological Nomenclature* 2 : 301-302).

Commissioners :—Apstein; Bather; Calman; Fantham; Hemming; Jordan; Peters; Richter; Silvestri; Stephenson; Stiles; and Stone.

12. No Commissioner voted against the present *Opinion*.

13. The following six (6) Commissioners did not vote on the present *Opinion* :—

Commissioners :—Bolívar y Pieltain; Cabrera; Chapman; Esaki; Pellegrin; and Stejneger.

14. In addition, Commissioners do Amaral and von Hankó, who, near the close of the voting on this case, were elected members of the Commission in succession respectively to Commissioners A. Handlirsch (deceased) and A. Horváth (resigned), did not take part in its consideration.

IV.—AUTHORITY FOR THE ISSUE OF THE PRESENT *OPINION*.

WHEREAS the Ninth International Congress of Zoology at its meeting held at Monaco in March 1913, adopted a Resolution conferring upon the International Commission on Zoological Nomenclature, plenary powers to suspend the rules as applied to any given case, where, in the judgment of the Commission, the strict application of the rules would clearly result in greater confusion than uniformity, provided that not less than one year's notice of the possible suspension of the rules as applied to the said case should be given in two or more of five journals named in the said Resolution, and provided that the vote in the Commission was unanimously in favour of the proposed suspension of the rules; and

WHEREAS the suspension of the rules is required to give valid force to the provisions of the present *Opinion* as set out in the summary thereof; and

WHEREAS not less than one year's notice of the possible suspension of the rules as applied to the present case has been given to two or more of the journals referred to in the Resolution adopted by the Ninth International Congress of Zoology at its meeting held at Monaco in March 1913; and

WHEREAS the vote in the Commission on the present case was unanimously in favour of the issue of an *Opinion* in the terms of the present *Opinion* :

NOW, THEREFORE,

I, FRANCIS HEMMING, Secretary to the International Commission on Zoological Nomenclature, acting in virtue of all and every the powers conferred upon me in that behalf by reason of holding the said Office of Secretary to the International Commission, hereby announce the said *Opinion* on behalf of the International Commission, acting for the International Congress of Zoology, and direct that it be rendered and printed as *Opinion* Number One Hundred and Eighty Six (*Opinion* 186) of the said Commission.

In faith whereof I, the undersigned FRANCIS HEMMING, Secretary to the International Commission on Zoological Nomenclature, have signed the present *Opinion*.

DONE in London, this fifteenth day of August, Nineteen Hundred and Forty Four, in a single copy, which shall remain deposited in the archives of the International Commission on Zoological Nomenclature.

*Secretary to the International Commission
on Zoological Nomenclature.*

FRANCIS HEMMING